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NEREIDIDAE FROM ROCAS ATOLL (NORTH-EAST, BRAZIL) [1]

(With 7 figures)

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ABSTRACT: Seven species of nereidids belonging to the genera *Nereis*, *Neanthes*, *Ceratocephale*, *Perinereis*, and *Ceratonereis* were identified in Rocas Atoll, Rio Grande do Norte State (RN), Brazil (03°51'30"S and 33°49'29"W). Among them, one is new, *Nereis lanai* sp.nov., and three *Nereis panamensis*, *Ceratonereis longicirrata* and *Perinereis floridana* are new records to Brazilian coast.

Key words: Nereididae. Rocas Atoll. Brazil. New species. New records.

RESUMO: Nereididae do Atol das Rocas (Nordeste, Brasil).

Sete espécies de nereidídeos pertencentes aos gêneros *Nereis*, *Neanthes*, *Ceratocephale Perinereis* e *Ceratonereis* foram identificados no Atol das Rocas, Rio Grande do Norte (RN), Brasil (03°51'30"S e 33°49'29"W). Dentre estas, uma espécie é nova, *Nereis lanai* sp.nov., e três constituem novos registros para a costa brasileira, *Nereis panamensis*, *Perinereis floridana* e *Ceratonereis longicirrata*.

Palavras-chave: Nereididae. Atol das Rocas. Brasil. Espécie nova. Novos registros.

INTRODUCTION

Nereididae Lamarck, 1818 is among the most familiar polychaetes, both as classical textbook examples and from their occurrence on seashores around the world. While often referred to as Nereidae, especially in the older literature, the emended spelling to Nereididae, attributable to Pettibone (1971), is followed herein. Nereididae are widely employed in laboratory experiments, as bait for fishing, and sometimes even for human consumption (Gambi, 1994; Olive, 1994). Presently, there are some 540 nominal species grouped into 47 genera, although there is little consensus among different authors (Bakken & Wilson, 2005; Khlebovitch, 1996; Pleijel, 2001; Santos *et al.*, 2005).

The prostomium has a shape approaching an inverted T, that usually bears a pair of antennae anteriorly, and a biarticulated pair of palps. Other important features are the number of tentacular cirri; development of parapodia lobes with one or two distinct rami, noto- and neuropodia; proboscis divided into two rings: smooth, ornate with paragnaths and/or papillae; jaws, serrated or smooth; compound noto- and neurochaetae, that can be homogomph, heterogomph, and sesquigomph spinigers and/or falcigers.

A previous study by Rullier & Amoureux (1979) recorded three species of Nereididae in Rocas Atoll namely, *Platynereis magalhensis* Kinberg, 1866, *Nereis trifasciata* Grube, 1878, and *Ceratonereis mirabilis* Kinberg, 1866. A total of 72 polychaetes species were identified in Rocas Atoll by Netto *et al.* (1999), being 45 meiobenthic, however they did not provide any specific information for Nereididae. Recently, Neves & Omena (2003) identified *Nereis trifasciata* Grube, 1878 as one of sixteen polychaetes taxa associated to sponges assemblages. Additionally, Santos & Lana (2001) described a new species to the area, *Ceratocephale rocaensis*, whereas Santos & Lana (2003) recorded *Nereis falcaria* (Willey, 1905) and *Ceratonereis mirabilis* Kinberg, 1866.

RESULTS AND DISCUSSION

Genus *Nereis* Linnaeus, 1758

Diagnosis – Four tentacular cirri; a pair of frontal antennae; proboscis with conical paragnaths on both rings, absent in one or two areas; parapodia with noto- and neuroaciculae supporting noto- and neuropodia, respectively; notopodial ligulae may be present; posterior notopodia with homogomph spinigers replaced by homogomph falcigers; neuropodia with homogomph spinigers, heterogomph spinigers and falcigers.

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Nereis lanai sp.n.
(Fig.1)

Examined material – Rio Grande do Norte, Rocas Atoll: HOLOTYPE: IBUFRJ 609 - "Cemitério" pool, 06/30/2001, C.Tavares, N.Magalhães and S.N.Brandão coll.; paratypes: IBUFRJ 610 - "Cemitério" pool, 06/30/2001, C.Tavares, N.Magalhães and S.N.Brandão coll., 20 specimens; IBUFRJ 611 - 03°51'751" S - 33°49'066 " W, calcareous algae, 10/05/2001, 1 specimen; IBUFRJ 612 - "Barretinha" Chanel, calcareous algae, 10/10/2000, 22 specimens.

Diagnosis – Specimens delicate and small. Proboscis with very delicate conical paragnaths. Notochaetae homogomph spinigers replaced by one homogomph falciger tridentate from chaetiger 8-9, the third tooth is small and can be absent or overlooked in some hooks; notopodial ligulae absent throughout.

Description – The holotype is a complete specimen of 35 chaetigers and 7mm long. Paratypes vary from 10 chaetigers, 1mm long to 37 chaetigers, 5mm long. Specimens whitish in ethanol, without any pigmentation pattern. Prostomium with 2 pairs of small eyes, in trapezoidal arrangement (Fig.1a), on the posterior half. One pair of frontal antennae, subigual in length to palps and palpostyles subconicals. Anterior cirri (=tentacular cirri) short, the postero-dorsal, usually the longest, reaches the second chaetiger (Fig.1a). Paragnaths small, few, poorly chitinized and hardly visualized, usually with the aid of optical microscopy, distributed in Area I.1-2?; Areas II.4-5; Area III.?; Areas IV. 3-4; Area V. 0; areas VI. 2-3?; Areas VII-VIII. 4-5. Peristomium maybe folded on the first pair of eyes (Fig.1a). Notopodia with dorsal cirri longer than notopodial lobe along the body and notopodial ligulae absent throughout (Figs.1b-1f). Neuropodial lobe acicular and neuropodial ligulae with almost half length of neuropodial lobe (Figs.1b-1f). Neuropodial cirri shorter than neuropodial ligulae along the body. Notochaetae homogomph spinigers (Fig.1g) in anterior chaetigers, replaced by homogomph falcigers from chaetigers 8-9 (Figs.1h-j). Neurochaetae supra-acicular homogomph and heterogomph spinigers and subacicular heterogomph spinigers and falcigers (Fig.1l). Pigidial cirri reaching 3-4 chaetigers when distended towards anterior region.

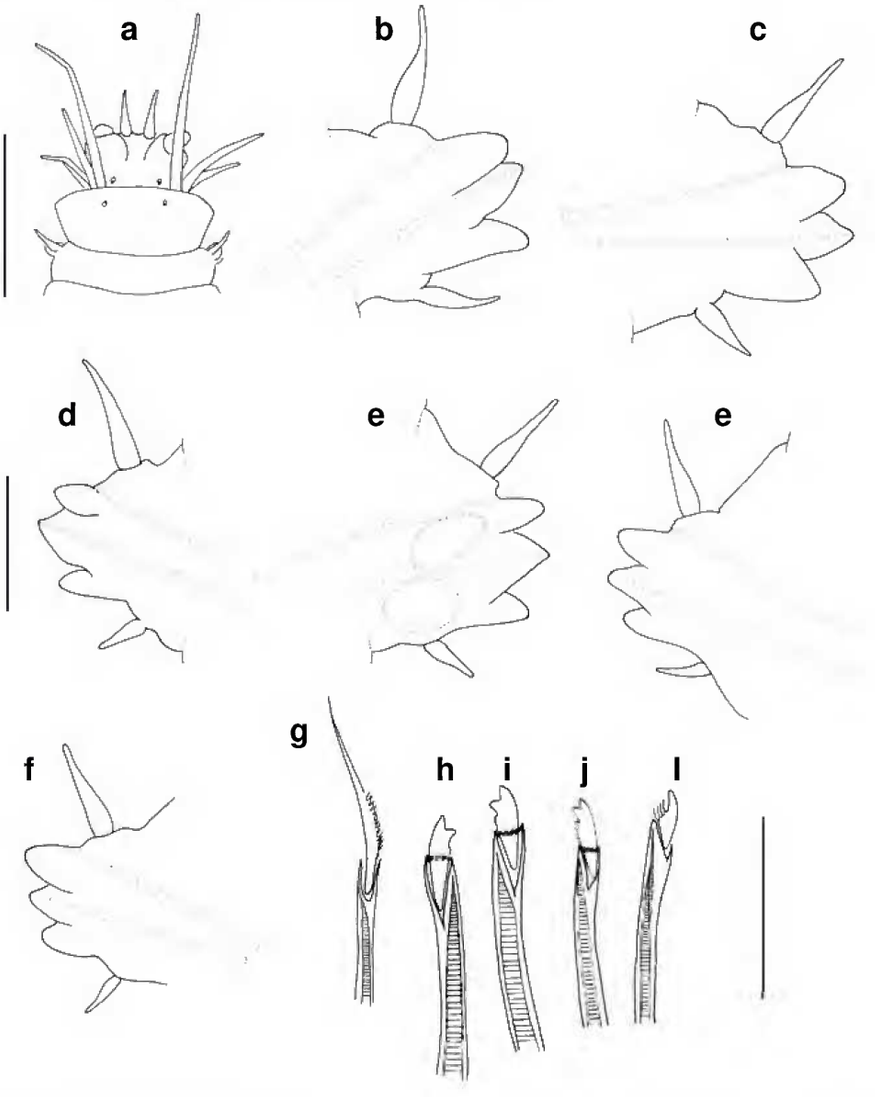

Fig.1- *Nereis lanai* sp.n.: (a) anterior end, dorsal view; (b) parapodium 5, posterior view; (c), parapodium 10, posterior view; (d) parapodium 15, anterior view; (e) parapodium 20, anterior view; (f) parapodium 30, posterior view; (g) notochaetae homogomph spiniger from parapodium 10; (h-j) notochaetae homogomph falciger; (l) neurochaeta heterogomph falciger from parapodium 30. Scale bars: a-f = 100μm; g-l=45μm.

Remarks – Similar species with notopodial homogomph falcigers dentate are *Nereis jacksoni* Kinberg, 1866, *Nereis falcaria* (Willey, 1905), *Nereis kauderni* Fauvel, 1921, and *N. panamensis* Fauchald, 1977, all these species present notopodial ligulae conspicuous in anterior parapodia. *Nereis trifasciata*, recorded by Neves & Omena (2003), has homogomph falcigers slightly serrated, never dentate, and notopodial ligulae present in anterior chaetigers, while in *Nereis lanai* chaetae are distinctly bi-tridentate and notopodial ligulae are absent.

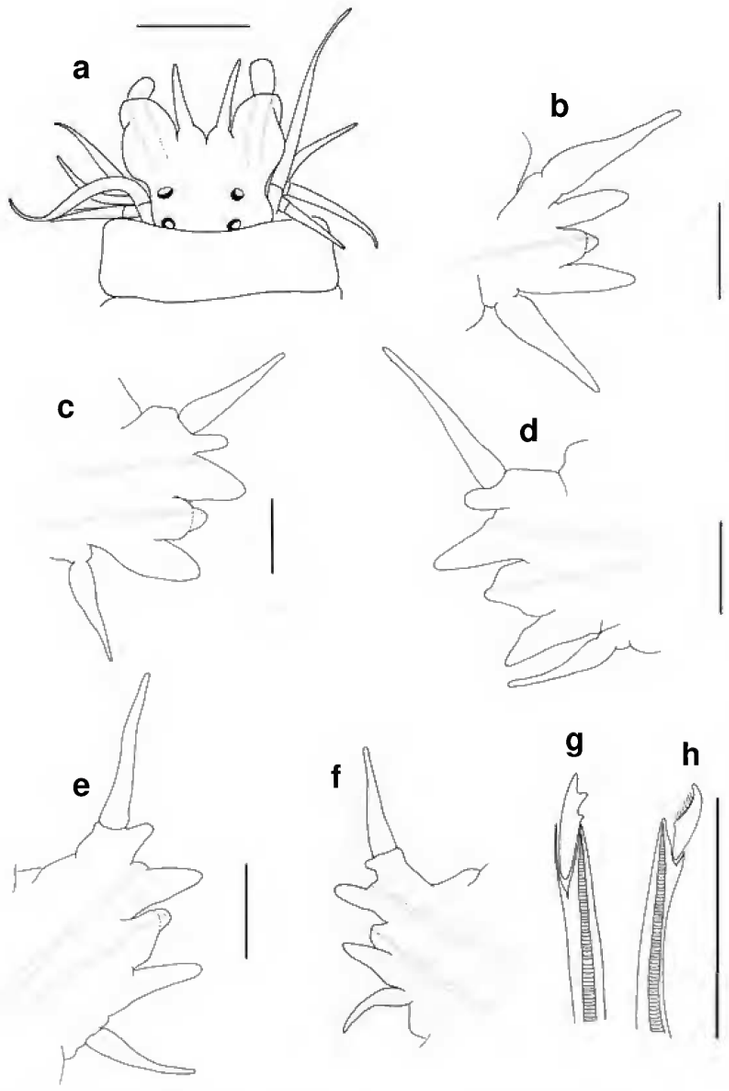

Fig.2- *Nereis panamensis*: (a) anterior end, dorsal, view; (b) parapodium 1, posterior view; (c) parapodium 5, posterior view; (d) parapodium 26, anterior view; (e) parapodium 40, posterior view; (f) parapodium 50, anterior view; (g) notochaeta homogomph falciger from parapodium 40; (h) neurochaeta subacicular from parapodium 40. Scale bars: a=450μm, b-f=100μm, g-h=45μm.

Specimens from Rocas Atoll examined by Santos & Lana (2003) were identified as *N. falcaria* having notopodial ligulae, not so well developed as described by Day (1967), and with dorsal cirri subterminal. Santos & Lana (2003) examined only 2 specimens that were not in good conservation conditions. Their material, figures and description are very similar to *N. lanai* and can be confounded; however the material identified as *N. falcaria* present notopodial ligulae, absent in *N. lanai* and not so well developed as seen in *N. panamensis*.

Habitat – Tide pools with fine sand.

Distribution – Only known up to this date to Rocas Atoll.

Etymology – The species is named after Paulo Lana, for his contribution to the knowledge of Brazilian polychaete fauna.

Nereis panamensis Fauchald, 1977
(Fig.2)

Nereis panamensis Fauchald, 1977:29-31, fig.6d-I; De León-González, 1997:148-152, figs.86a-g; 87a-b.

Examined material – Rio Grande do Norte, Rocas Atoll: IBUFRJ 613 - 03°51'751" S - 33°49'066"W, calcareous algae, 10/05/2001, 1 specimen.

Diagnosis – Prostomium with slightly bifid anterior margin (Fig.2a); Paragnaths absent on areas I and V, other areas II. 3-4 cones in a transverse row; III. 6 cones in transverse row; area IV. 6 cones in a single row; area VI. 5 cones in transverse row; areas VII-VIII. 10 cones in one row; jaws serrated with 8 teeth; notopodial ligulae present in anterior parapodia and reduced towards posterior region (Figs.2b-f); notochaetae homogomph spinigers replaced by one falciger tridentate from chaetiger 13 (Fig.2g). The only specimen collected is complete, with 55 chaetigers and 11mm long.

Remarks – According to Fauchald's description, the anterior parapodia show a bluntly thick inferior lobe and a distinct superior lobe (=notopodial ligulae) is absent, however the author did not illustrated anterior parapodia, only one posterior without mention to the chaetiger number, that is similar to the posterior parapodia seen

here (Fig.2f). De León-González (1997) identified *N. panamensis* from Mexico, with specimens presenting a distinct notopodial ligulae (=Fauchald´s inferior lobe) in anterior parapodia, that decreases in length toward posterior region where they have a bluntly thick shape as illustrated by Fauchald for posterior parapodia.

Although I have not seen any material-type of *N. panamensis* I suspected that the Fauchald´s specimens have a notopodial ligulae in anterior parapodia as pointed out by De León-González (1997) for material from Mexico. It seems that what Fauchald (1977) named inferior lobe, described as bluntly and thick, and not illustrated for anterior parapodia, is in fact the notopodial ligulae shown by De León-González (1997).

The species has been also recorded in Cuba by San Martin (1993). Nevertheless, considering the parapodial morphology his material should have been referred to *N. panamensis* with doubt. According to San Martin´s drawings, the anterior parapodia present a very small projection in position corresponding to notopodial ligulae, median parapodia with notopodial ligulae conspicuous, and posterior parapodia without ligulae or any small projections (p.7, fig.2). *Nereis falcaria*, similar species recorded to Rocas Atoll, also have notopodial ligulae, however they are less developed, besides dorsal cirri are shorter and displaced subterminally from anterior region.

Distribution – Western Atlantic: Gulf of Mexico, from Panama to Cuba.

Genus *Neanthes* Kinberg, 1866

Diagnosis – Four tentacular cirri; a pair of frontal antennae; proboscis with conical paragnaths on both rings; parapodia with noto and neuroaciculae supporting noto- and neuropodia, respectively; notopodial ligulae present; notopodia with homogomph spinigers throughout; neuropodia with homogomph spinigers, heterogomph spinigers and falcigers.

Neanthes acuminata Ehlers, 1868 (Fig.3)

Neanthes acuminata, De León-González, 1997:81, figs.42a-b.
Nereis (*Neanthes*) *caudata* Delle Chiaje, 1841:96, pl.102, figs.10-15; Fauvel, 1923:347, figs.135a-e; Day, 1967:321; 1968:525, figs.1-5; Rullier & Amoureux, 1979:167.
Neanthes caudata; Imajima, 1972:105, figs.31a-l; Núñez, 1990:444, figs.143a-3; De León-González, 1997:84, figs.44a-d; 45a-b.

Examined material – Rio Grande do Norte, Rocas Atoll: IBUFRJ 614 - "Lama" Bay, 10/05/2000, P.S.Young, P.C.Paiva and A.C.Aguiar coll., 52 specimens; IBUFRJ 615 - same locality, same date, same collectors, 4 specimens. Specimens varied from 20mm long and 27 chaetigers, incomplete, to 4,2mm long and 27 chaetigers, complete.

Diagnosis – Prostomium wider than long with 2 pairs of black well developed eyes on posterior half of prostomium; longest tentacular cirri reaching chaetigers 3-4; proboscis with conical paragnaths: I. 17 oval group; II. 25 curved shape group; IIII. 32; IV. 30 ; V,VI,VII-VIII (Figs.3a-b). fused in a continuous band of conical paragnaths, 3-4 irregular rows; notopodial dorsal and median ligulae present; basal region of notopodial ligulae slightly enlarged on posterior region (Figs.3c-g); notopodial chaetae homogomph spinigers throughout; neuropodial chaetae homogomph spinigers and heterogomph falcigers in supra- and subacicular bundles (Fig.3h).

Remarks – *Neanthes caudata* differs from *Neanthes operta* Simpson, 1856, similar species, by the presence of two notopodial ligulae and more numerous paragnaths in areas I and II. Pettibone (1963) grouped *Neanthes caudata* and *Neanthes arenaceodentata* Moore, 1903 under *Neanthes arenaceodonta* Moore, 1903. Day (1967) and Imajima (1972) considered *N. arenaceodentata* and *N. arenaceodonta* identical to *N. caudata*, described about 60 years before. *N. arenaceodonta* was recorded for Brazilian coast, however the references do not include descriptions and/or illustrations and it is possible that this material could be in fact *Neanthes acuminata* Ehlers, 1868. *Neanthes caudata* and *Neanthes acuminata* are very similar species but according to Weinberg *et al.* (1990) are differente species based on genetic material and reproductive biology. *Neanthes caudata* has 11 pairs of cromosom and would be restricted to Atlantic and *Neanthes caudata* 9 pairs and would be restricted to Pacific. Meanwhile, the specimens from Brazilian coast will be identified as *N. acuminata* until more detailed studies provide more definitive information.

Habitat – Intertidal region.

Distribution – Circumtropical: North Atlantic, Santander and Massachusetts to Florida; Mediterraneo; California Southeast, Mexico; Tasmania and New Zealand.

Genus *Ceratocephale* Malmgren, 1868

Diagnosis – Pair of frontal antennae displaced nearby the basis of palps; proboscis with conical papillae on oral; parapodia with noto and neuroaciculae supporting noto- and neuropodia, respectively; notopodial ligulae absent; dorsal cirri with cirrophore, that might be expanded; double ventral cirri; notopodia with supra aciculars chaetae homogomph spinigers throughout and subacicular sesquigomph spinigers; neuropodia with homogomph and sesquigomph spinigers, sesquigomph falcigers may be present.

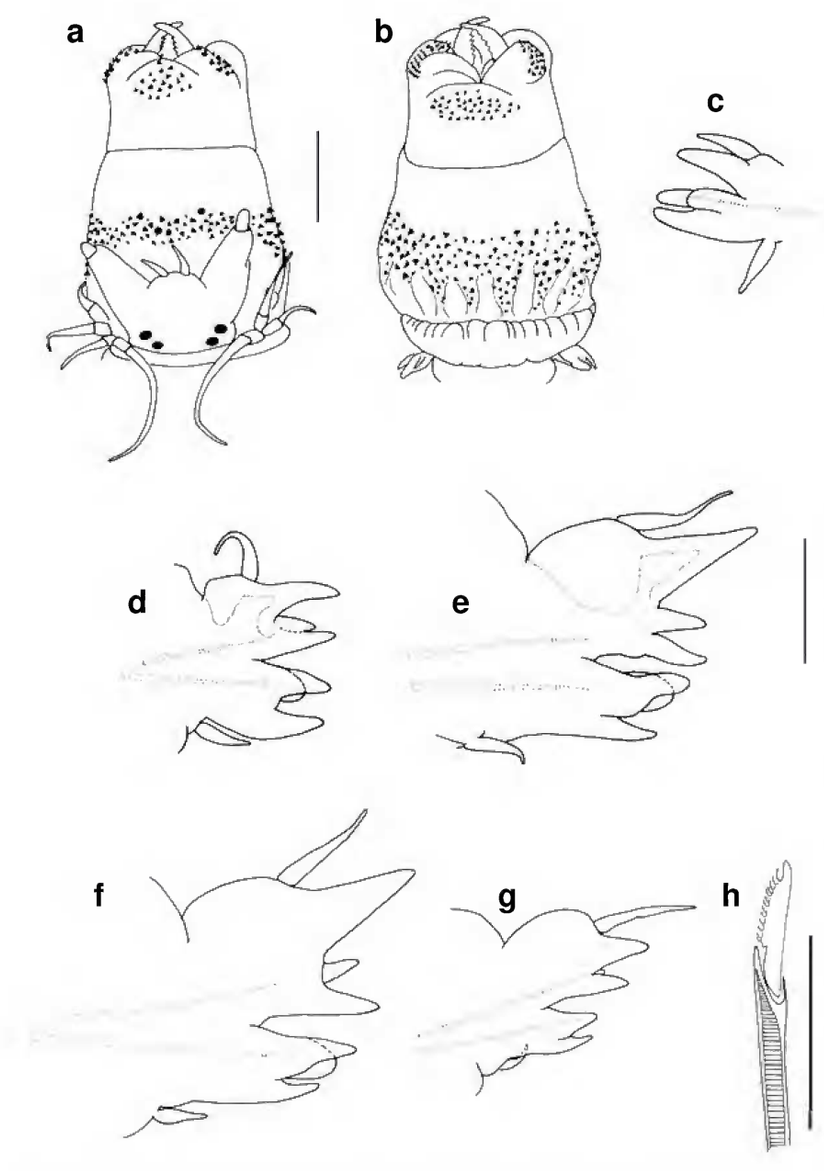

Fig.3- *Neanthes acuminata* ehlers, 1868: (a) anterior end, dorsal view, proboscis everted; (b) anterior end, ventral view, proboscis everted; (c) parapodium 1, anterior view; (d) parapodium 5, posterior view; (e) parapodium 18, posterior view; (f) parapodium 41, posterior view; (g) parapodium 57, posterior view; (h) neurochaeta heterogomph falcigers from parapodium 10. Scale bars: a-b=1.25mm, c-g=450μm, h=45μm.

Ceratocephale rocaensis Santos & Lana, 2001
(Fig.4)

Ceratocephale rocaensis Santos & Lana, 2001, figs.19-25.

Examined material – Rio Grande do Norte, Rocas Atoll: IBUFRJ 616 - 03°51'680" S - 33°49'604" W, 19m, 10/16/2000, P.S.Young, P.C.Paiva and A.C.Aguiar coll., 1 specimen; IBUFRJ 617 - 03°51'747" S - 33°49'497" W, 14m, same date, same collectors, 1 specimen; IBUFRJ 618 - 25 26 - 0 46, 1 specimen. Size varied from 6,8mm long and 31 chaetigers, incomplete to 2,8mm long, 24 chaetigers, incomplete.

Diagnosis – Four tentacular cirri, the longest reaching chaetiger 3; two pairs of black eyes disposed on the posterior half of prostomium (Fig.4a); proboscis with papillae on the oral ring and serrated amber jaws. Notopodial ligulae absent (Figs.4b-f). Double ventral cirri from chaetiger 1 (Fig.4b), where the ventral ramus have about 1/4 length. Cirrophores expanded from chaetigers 10-18 (Fig.4d). Dorsal region smooth throughout. Notochaetae supra-aciculars homogomph spinigers and subaciculars homogomph and sesquigomph spinigers (Figs.4h). Neurochaetae supra-aciculars spinigers homogomph; neurochaetae subaciculars homo- and sesquigomph spinigers (Figs.4h-j) and falcigers (Fig.4g). Falcigers appear only in the three first chaetigers.

Remarks – *Ceratocephale rocaensis* is only known from Rocas Atoll. Within co-generic species, *C. setosa* Hutchings & Reid, 1990, known only from Australia, is the most similar concerning to parapodia morphology and kind of chaetae. They differ on the presence of bifid ventral cirri from chaetiger 3 and neuropodial papillae in *C. setosa*.

Ceratocephale oculata Banse, 1977, reported from several localities in the Atlantic Ocean and similar to *C. rocaensis*, was reported in Northeastern coast of Brazil by Santos & Lana (2001). The main feature distinguishing *C. oculata* from *C. rocaensis* is the absence of falcigers chaetae and presence of ridges on dorsal region in the former.

Habitat – Intertidal pools, calcareous bottom.

Distribution – Only known from Rocas Atoll.

Genus *Perinereis* Kinberg, 1866

Diagnosis – Four tentacular cirri; a pair of frontal antennae; proboscis with conical paragnaths o

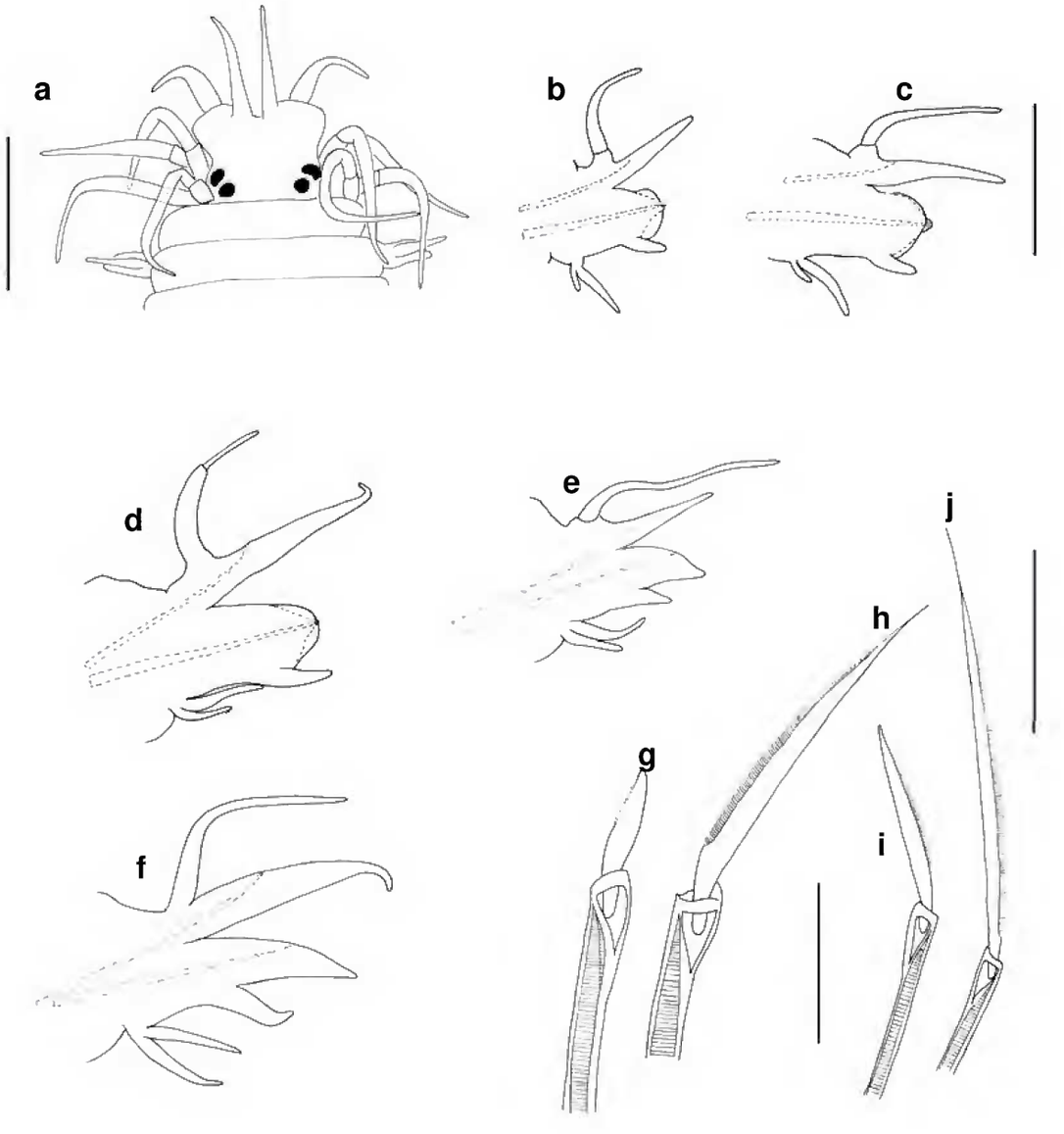

Fig.4- *Ceratocephale rocaensis*: (a) anterior end, dorsal view; (b) parapodium 1, posterior view; (c) parapodium 5, posterior view; (d) parapodium 10, posterior view; (e) parapodium 21, posterior view; (f) parapodium 15, posterior view; (g) neurochaeta sesquigomph falciger, parapodium 3; (h-i) notochaetae sesquigomph spiniger from parapodium 3. Scale bars: a=100μm, b-f=450μm, j=45μm.

maxillary ring and conical and bar-shaped paragnaths on oral ring, parapodia with noto and neuroaciculae supporting noto- and neuropodia, respectively; notopodial ligulae present; notopodia with homogomph spinigers throughout; neuropodia with homogomph spinigers, heterogomph spinigers and falcigers.

Perinereis floridana Ehlers, 1868
(Fig.5)

Perinereis floridana, Hartman, 1951:47; de León-González, 1997:200, figs.117a-e, 118 a-b.

Examined material – Rio Grande do Norte, Rocas Atoll: IBUFRJ 619 "Lama" Bay, 10/17/2000, 1 specimen; IBUFRJ 620 - Near " Farol" pools, under rocks, 12/30/2000, F.Pitombo and R.Barroso Coll., 11 specimens; IBUFRJ 621 - Near Farol, under rocks, P.S.Young, P.C.Paiva and A.C.Aguiar Coll., 3 specimens. Size varied from 74mm long and 105 chaetigers in complete individuals to 35mm long and 74 chaetigers.

Diagnosis – Long postero-dorsal tentacular cirri reaching chaetiger 4-5 (Figs.5a); one pair of cirriform frontal antennae almost as long as palps; small black eyes arranged in rectangle (Fig.5a); proboscis with conical and bar-shaped paragnaths; Area I. 4 in a row; areas II. 7-8 in row; area III. 10 in oval arrangement; areas IV. 10; area V. 3; areas VI. bar-shaped paragnaths; areas VII-VIII. 2 rows of conical paragnaths ±30. Notopodial ligulae subigual to notopodial lobe throughout.

Remarks – Species differs from *P. anderssoni*, previously registered to Rocas Atoll (Santos, 1996), by the posterior parapodial ligulae shorter and subigual to notopodial lobe, resembling those of median segments, whereas *Perinereis anderssoni* has posterior notopodial ligulae longer than lobe, the length of tentacular cirri and the small black eyes.

Distribution – Previous records are restricted to Florida, Mexico and Madeira Island (Portugal).

Genus *Ceratonereis* Kinberg, 1866

Diagnosis – Four tentacular cirri; a pair of frontal antennae; proboscis with conical paragnaths on maxillary ring, parapodia with noto and neuroaciculae supporting noto- and neuropodia, respectively; notopodial ligulae present; notopodia with homogomph spinigers and sesquigomph falcigers present on posterior parapodia; neuropodia with homogomph spinigers, heterogomph spinigers and falcigers.

Ceratonereis cf. singularis Treadwell, 1929
(Fig. 6)

Ceratonereis singularis Treadwell, 1929:1, figs.1-8; de Leon-González, 1997:52,55-57, figs.26-27.

Examined material – Rio Grande do Norte, Rocas Atoll : IBUFRJ 622 "Barretão", 10/19/2000, calcareous algae, 5 specimens; IBUFRJ 623 - 3°57'148" S - 33°48'407" W; calcareous algae, 10/05/2000, 2 specimens; IBUFRJ 624 - 3°51'751" S - 33°49'066" W, 3 specimens; IBUFRJ 625 - 03°51'643 S - 33°47'679W, calcareous algae, P.Young, P.Paiva and P.Aguiar coll., 15 specimens; "Rocas" pool, R8, calcareous algae, 10/07/2000, 1 specimen. Specimens varied from 17mm and 48 chaetigers to 6mm and 16 chaetigers, all incomplete.

Diagnosis – Prostomium orange to brown, body with orange color segmental bands on dorsum. Longest tentacular cirri reaching chaetigers 13-14. Prostomium anteriorly incised with antennae and palps slightly longer than prostomial width (Fig.6a). Antennae with foliaceous aspect and fine tips (Fig.6a). Proboscis with paragnaths absent on area I, II. 16, single group on area III. 10. Presence of notopodial ligulae longer than lobe on anterior chaetigers, reduced in posterior parapodia to small papillae (Figs.6b-e), sometimes difficult to visualize in small specimens. Ventral cirri extending about to tips of neuropodial ligule. Notochaetae sesquigomph spinigers on anterior parapodia, replaced by sesquigomph falcigers slightly concave in posterior parapodia (Fig.6f). Neuropodial falcigers unidentate (Fig.6g).

Remarks – According to Perkins (1980), six species (*C. japonica*, *C. excisa*, *C. longicirrata*, *C. singularis*, and *C. tentaculata*) are very similar and have been mixed. Characters of importance in distinguishing atokous members of this group are: body dimensions, development of parapodial lobes along the body; shape and possible number of falcigers; features of stiff hairs on the blades of compound falcigers and gross differences and number, arrangement and size of paragnaths. As for *C. singularis*, the diagnostic features are antennae shape, not

seen in any other Ceratonereis, notopodial ligules reduced to papillae in posterior parapodia and blades of notopodial and neuropodial falcigers unidentate.

Morphology of specimens from Rocas Atoll corresponds to *C. singularis* description in a general way, except for the presence of notopodial falcigers slightly bidentate or concave.

Habitat – Found in hard bottoms: coral reefs and carbonate rocks.

Distribution – Western Atlantic: from North Carolina to Brazil (09°S), Pacific: Mexico, Gulf of California.

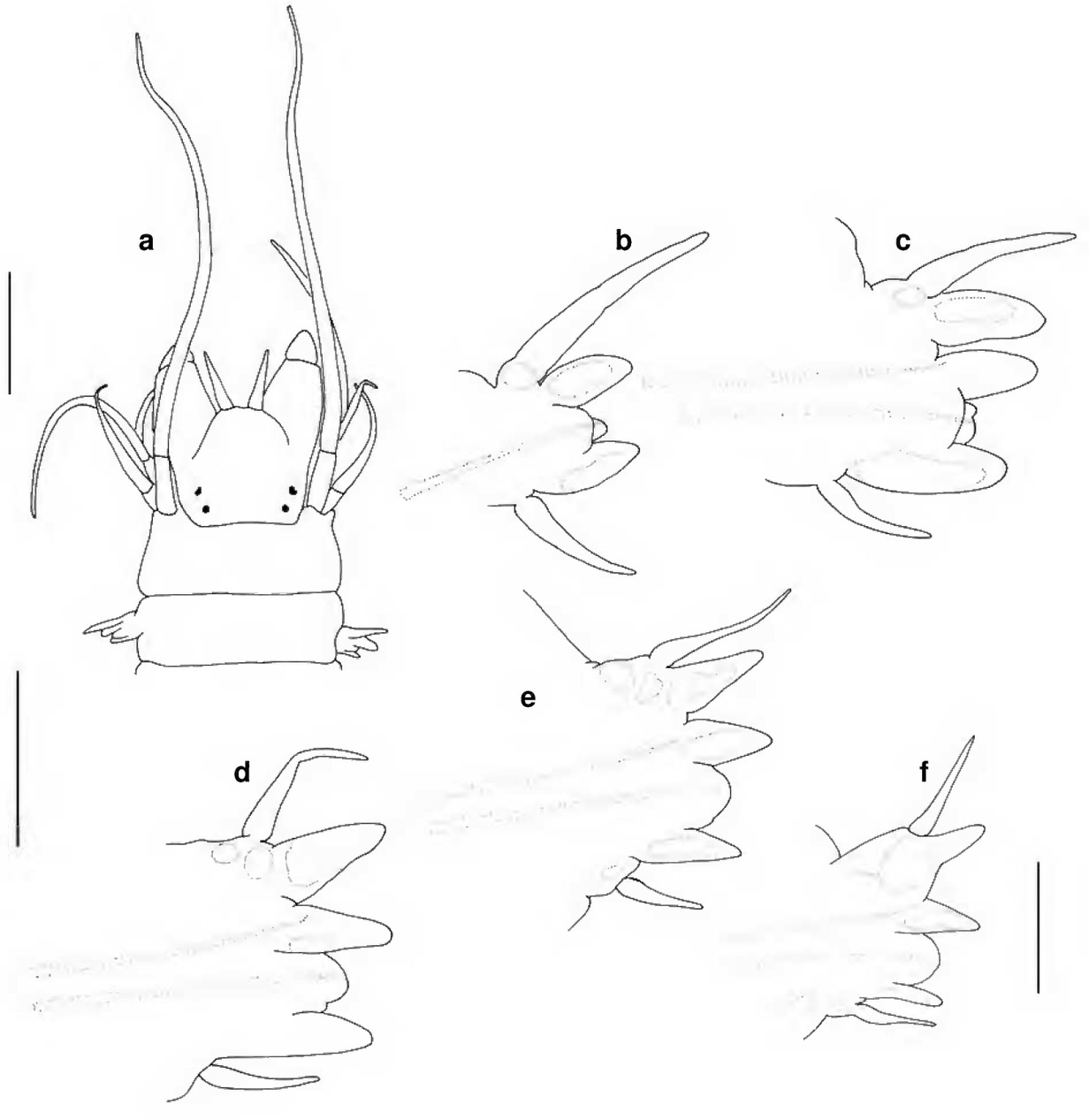

Fig.5- *Perinereis cf. floridana*: (a) anterior end, dorsal view; (b) parapodium 1, posterior view; (c) parapodium 5, posterior view; (d) parapodium 15, posterior view; (e) parapodium 30, posterior view; (f) parapodium 100, posterior view. Scale bars: a=1mm, b-f=450μm.

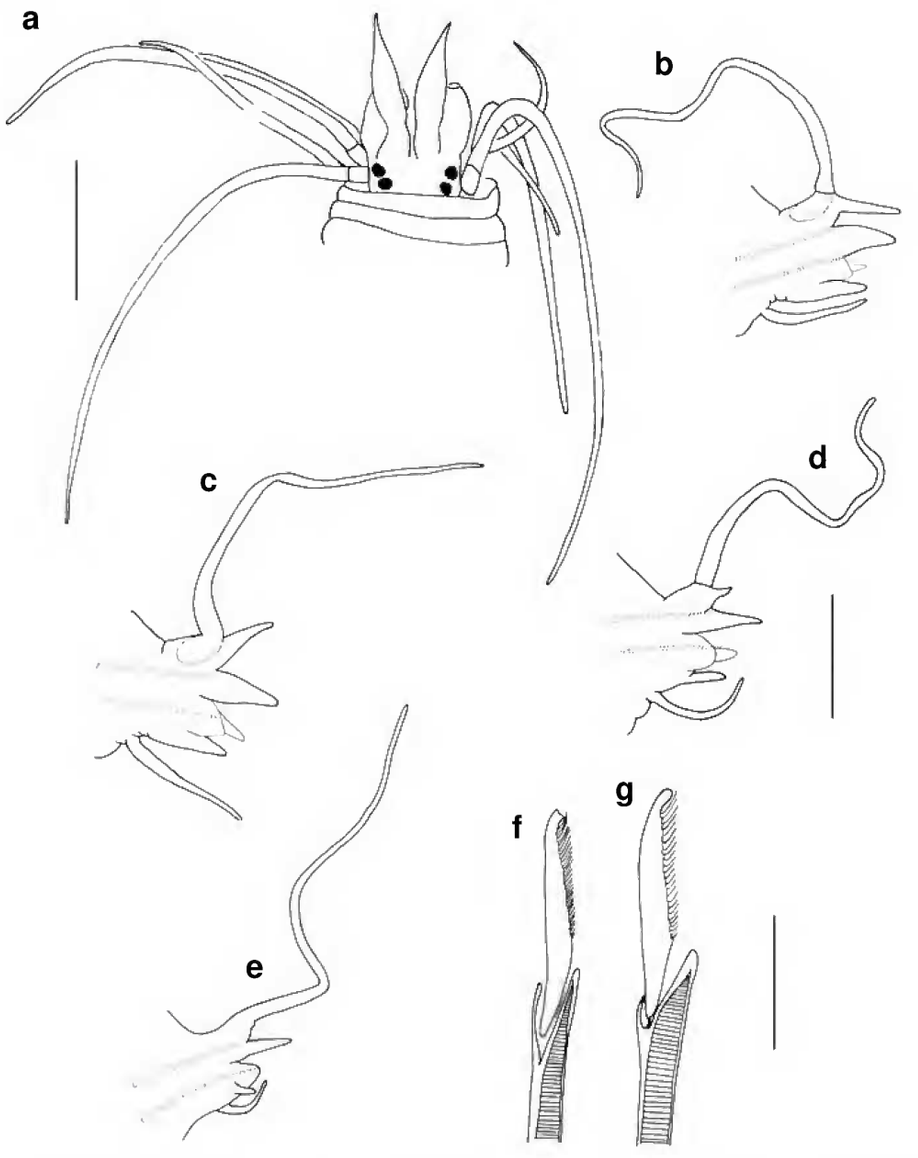

Fig.6- *Ceratonereis singularis*: (a) anterior end; dorsal view; (b) parapodium 5, posterior view; (c) parapodium 10, posterior view; (d) parapodium 15, posterior view; (e) parapodium 25?, posterior view; (f) notochaeta sesquigomph falciger bidentate; (g) subacicular neurochaeta heterogomph falciger. Scale bars: a=1.25mm, b-e=450μm, f-g=45μm.

Ceratonereis longicirrata Perkins, 1980
(Fig.7)

Examined material – Rio Grande do Norte, Rocas Atoll: IBUFRJ 626 - "Rocas" Pool, 12/22/2000, F.Pitombo and R.Barroso Coll., 2 specimens; IBUFRJ 627- "Rocas" pool, 10/26/2000, 1 specimen; IBUFRJ 628 - "Barreta" chanel, calcareous algae, 10/10/2000, 11 specimens, all exemplars without tentacular and dorsal cirri. Specimens size from 35 chaetigers and 7 mm long to 41 chaetigers, 22mm long, all incomplete.

Diagnosis – Colorless in alcohol. Prostomium anteriorly incised with antennae and palps as longer as prostomial width (Fig.7a). Longest anterior cirri reaching chaetiger 13, conspicuous cirrophores; proboscis with paragnaths absent on maxillary ring but was not possible to count them. Presence of notopodial ligulae slightly longer than lobe on anterior chaetigers, absent in posterior parapodia disappearing by chaetiger

29-30 (Figs.7b-d). Ventral cirri extending about to tips of neuropodial ligulae in anterior parapodia and three to four times longer than neuropodial ligulae in posterior parapodia. Notochaetae sesquigomph spinigers in anterior parapodia are replaced by sesquigomph falcigers bidentate in posterior parapodia (Fig.7e). Neuropodial falcigers with distal tips distinctly bidentate (Fig.6g).

Remarks – According to HARTMANN-SCHRÖDER (1985) revision, *C. longicirrata* is the only species with incised prostomium that have notopodial chaetae bidentate and lack notopodial ligulae in posterior parapodia. Besides diagnostic features, material from Rocas Atoll is also similar to *C. longicirrata* on the presence of dorsal cirri longer than segmental width, anterior dorsal cirri in the first chaetiger slightly longer than notopodial ligulae.

Habitat – Usually found in coarse calcareous sand, among rocks and algae.

Distribution – Western Atlantic: Florida, Gulf of Mexico, Bahamas, Puerto Rico and Barbados and Rocas Atoll.

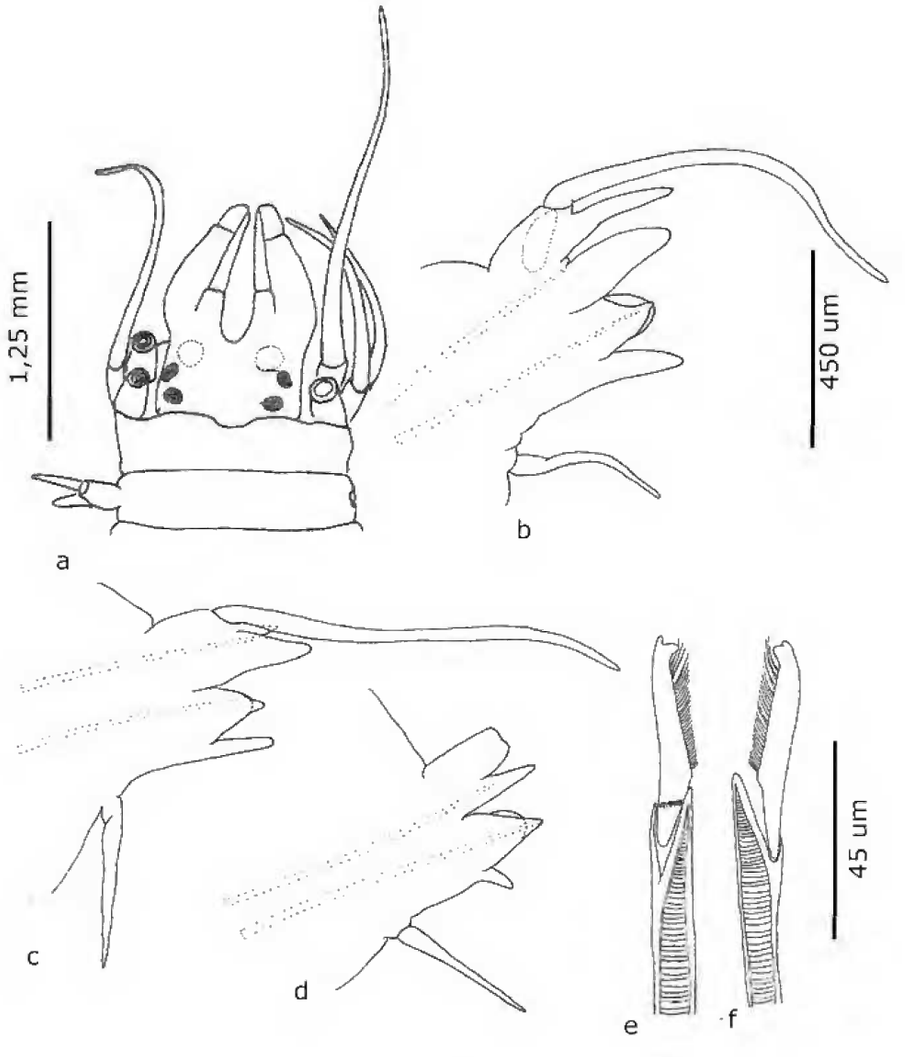

Fig.7- *Ceratonereis longicirrata*: (a) anterior end; dorsal view; (b) parapodium 5, posterior view; (c) parapodium 20, posterior view; (d) parapodium 30, posterior view; (e) notochaeta sesquigomph falciger bi-dentate; (f) subacicular neurochaeta heterogomph falciger bidentate.

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